

### **REMARKS/ARGUMENTS**

Claims 33-46 are currently pending in the present application. Claims 1-33 were previously canceled without prejudice or disclaimer. Claims 33-35, 37-39, 41, and 43-45 have been amended. Support for the amendments can be found in the claims and specification, as originally filed, e.g., at page 1, lines 19-21 and page 8, lines 12-25. No new matter has been added.

Applicants wish to thank Examiner Thomas for the courtesies extended to Applicants' representative, Bryant L. Young, during the interview discussion on October 28, 2009. At that time, the differences between the present claims and the cited of record were discussed, in view of the rejections of record. The Examiner suggested amendments for Applicants' consideration to overcome the prior art of record, including a change to the preamble of 33 to recite the type/use of the implant, positive recitation of the bone-growth-initiating or bone-growth-stimulating substance in claim 33, and specifying the type of oxide material, e.g., titanium oxide.

Reconsideration of the application is respectfully requested in view of the following remarks.

### **Rejections under 35 U.S.C. § 103(a)**

The rejection of claims 33, 35, 37, 40, 43 and 46 under 35 U.S.C. § 103(a) as obvious over Hunter et al. (US Patent No. 6,447,550) in view of Baylink et al (US Patent No. 5,691,305); and claims 34, 36, 38-39, 41-42 and 44-45 as obvious over Hunter et al. in view of Baylink et al. in view of Larsson et al. (US Patent No. 6,689,170) are respectfully traversed for reasons of record, the reasons discussed below, and obviated by the above amendment.

The references, alone or combination, do not describe or suggest ***an implant for application in a hole formed in bone*** comprising:

titanium and having one or more surfaces which can be applied in or on tissue areas and/or bone growth areas, one or more of the said surfaces being arranged with a depot for a bone-growth-

initiating substance or bone-growth-stimulating substance of the superfamily TGF- $\beta$ ,  
wherein *the depot is formed by a pore arrangement in a relatively thick titanium oxide layer on the titanium*,  
wherein *the titanium oxide layer has a thickness in the range of 1-20  $\mu\text{m}$* , and  
wherein *the depot comprises a bone-growth-initiating or bone-growth-stimulating substance of the superfamily TGF- $\beta$* .

(Amended claim 33; emphasis added).

In particular, as acknowledged and appreciated by the Examiner in the present Office Action, Hunter et al. does not describe all of the features of the claimed implant, including TGF- $\beta$  in the pores as a bone-growth-initiating or bone-growth-stimulating substance, i.e., a depot comprising a bone-growth-initiating or bone-growth-stimulating substance of the superfamily TGF- $\beta$ . Moreover, Applicants point out Baylink et al. and Larsson et al. do not cure the deficiencies of Hunter et al.

Specifically, regarding Baylink et al., there is no description or suggestion of a titanium implant, i.e., titanium on one or more surfaces. Further, regarding Larsson et al., while the reference generally describes a titanium implant element for permanent anchorage in bone tissue, inclusive of an oxide surface, there is no indication of TGF- $\beta$  in the pores as a bone-growth-initiating substance or a bone-growth-stimulating substance.

Therefore, for at least these reasons, the claimed invention is novel and non-obvious over the cited prior art of record. Accordingly, reconsideration and withdrawal of the rejection is requested.

### **Double Patenting Rejections**

The provisional rejections of claims 33-36 on the ground of non-statutory obviousness-type double patenting as obvious over claims 1, 7-9 of co-pending Application No. 10/482,727 and Shimamune et al. (US Patent No. 4,818,572); and claims 33-36 as obvious over claims 4-5, 7 and 10 of co-pending Application No. 10/482,737 and Shimamune et al. are respectfully traversed in view of the above amendment. The claims of the co-pending applications do not recite, *inter alia*, the features of “the depot [ ] formed by a pore arrangement in a relatively thick titanium oxide layer on the titanium . . . wherein the depot comprises a bone-growth-initiating or

bone-growth-stimulating substance of the superfamily TGF- $\beta$ .” (Amended claim 33; emphasis added). Moreover, Shimamune et al. only generally describes a process for producing a calcium phosphate compound-coated composite material.

Therefore, the double patenting rejections should be withdrawn.

In the event the Examiner believes an interview might serve in any way to advance the prosecution of this application, the undersigned is available at the telephone number noted below.

A two-month extension of time fee is due with this response. The Commissioner is hereby authorized in this, concurrent, and further replies, to charge payment or credit any overpayment to Deposit Account No. 22-0185, under Order No. 21547-00286-US from which the undersigned is authorized to draw.

Dated: November 3, 2009

Respectfully submitted,

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